

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of Erik J. SHAHOIAN et al.

Serial No.: Unassigned

Examiner: TBD

Confirmation No.: Unassigned

Art Unit: TBD

Filed: February 13, 2004

For: VIBROTACTILE HAPTIC FEEDBACK DEVICES

U.S. Patent and Trademark Office
2011 South Clark Place
Customer Window, Mail Stop Patent Application
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202

**INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §1.97(b)**

In accordance with the duty of disclosure set forth in 37 C.F.R. §1.56, Applicant(s) hereby submits the following information in conformance with 37 C.F.R. §§1.97 and 1.98.

- ☐ Pursuant to 37 C.F.R. §1.98, a copy of each document cited in the attached Form PTO/SB/08 is enclosed.
- ☒ No copies of the publications listed on the attached Form PTO/SB/08A are being provided pursuant to 37 C.F.R. §1.98(d) because the publications were previously cited by or submitted to the Office in prior Application Serial No. 09/643,898 to which the above-identified application claims priority under 35 U.S.C. §120.
- ☐ No copies of any U.S. patents or U.S. patent application publications listed on the attached Form PTO/SB/08A are being provided pursuant to 37 C.F.R. §1.98 because this application was filed after June 30, 2003.
- ☐ Publication(s) ___ listed on the attached Form PTO/SB/08A were cited in a foreign search or examination report corresponding to ___ application serial no. and mailed on ___.
- ☐ Enclosed is a copy of a non-English publication(s) ___. Pursuant to §609 of the M.P.E.P., Applicant submits the attached foreign search or examination report, which cites such non-English language publication(s).
- ☐ Enclosed is a copy of a non-English publication(s) ___. English language publication ___ (copy enclosed) claims priority from this non-English publication.

- ☐ Enclosed is a copy of a non-English publication(s) _____. English language publication _____ (copy enclosed) claims priority from this non-English publication.
- ☐ Enclosed is an explanation of non-English publication(s) _____ for which an English translation is not available.
- ☐ Enclosed is an English translation of non-English publication(s) _____ cited in the attached Form PTO/SB/08A.
- ☒ Enclosed is a copy of pending patent Application Serial No. 09/608,125.

This Information Disclosure Statement is filed within any one of the following time periods:

- ☒ within three months from the filing date of this national application other than a CPA under 37 C.F.R. § 1.53(d);
- ☐ within three months from the date of entry of the national stage as set forth in 37 C.F.R. §1.491 in this international application;
- ☐ before the mailing date of a first office action on the merits; or
- ☐ before the mailing of a first office action after the filing of a request for continued examination under 37 C.F.R. § 1.114.


It is respectfully requested that the Examiner consider the above-noted information and return an initialed copy of the attached Form PTO/SB/08A to the undersigned.

Dated: February 13, 2004

Cooley Godward LLP
ATTN: Patent Group
One Freedom Square
Reston Town Center
11951 Freedom Drive
Reston, VA 20190-5656
Tel: (703) 456-8000
Fax: (703) 456-8100

Respectfully submitted,
COOLEY GODWARD LLP

By:



Erik B. Milch
Reg. No. 42,287

Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	
				Filing Date	
				First Named Inventor	
				Group Art Unit	
				Examiner Name	
				Attorney Docket Number	
Sheet	1	of	7		

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code ² (if known)		
		5,785,630		Bobick, et al.	07/28/1998
		5,766,016		Sinclair et al.	06/16/1998
		5,547,382		Yamasaki et al.	08/20/1996
		5,466,213		Hogan et al.	11/14/1995
		5,334,027		Wherlock	08/02/1994
		5,309,140		Everett, Jr., et al.	05/03/1994
		5,299,810		Pierce et al.	04/05/1994
		5,275,174		Cook	01/04/1994
		5,271,290		Fischer	12/21/1993
		5,240,417		Smithson et al.	08/31/1993
		5,212,473		Louis	05/18/1993
		5,078,152		Bond et al.	01/07/1992
		5,038,089		Szakaly	08/06/1991
		5,035,242		Franklin et al.	07/30/1991
		5,022,407		Horch et al.	06/11/1991
		5,019,761		Kraft	05/28/1991
		4,934,694		McIntosh	06/19/1990
		4,930,770		Baker	06/05/1990
		4,891,764		McIntosh	01/02/1990
		4,794,392		Selinko	12/27/1988
		4,713,007		Alban	12/15/1987
		4,708,656		de Vries et al.	11/24/1987
		4,599,070		Hladky et al.	07/08/1986
		4,581,491		Boothroyd	04/08/1986
		4,513,235		Acklam et al.	04/23/1985
		4,236,325		Hall et al.	12/02/1980
		4,160,508		Salisbury, Jr.	07/10/1979
		3,911,416		Feder	10/07/1975
		3,903,614		Diamond et al.	09/09/1975
		3,902,687		Hightower	09/02/1975
		3,623,064		Kagan	11/23/1971
		3,517,446		Corlyon et al.	06/30/1970
		3,497,668		Hirsch	02/24/1970
		3,220,121		Cutler	11/30/1965
		3,157,853		Hirsch	11/17/1964
		6,424,333	B1	Tremblay et al.	07/23/2002

Examiner Signature	Date Considered	
--------------------	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number.

² See attached Kinds of U.S. Patent Documents.

Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	
				Filing Date	February 13, 2004
				First Named Inventor	Erik SHAHOIAN
				Group Art Unit	
				Examiner Name	
Sheet	2	of	7	Attorney Docket Number	IMMR-033/02US

		3,919,691		Noll	11/11/1975
		4,414,984		Zarudiansky	11/15/1983
		4,706,294		Ouchida	11/10/1987
		4,731,603		McRae et al.	03/15/1988
		4,795,296		Jau	01/03/1989
		4,868,549		Affinito et al.	09/19/1989
		4,885,565		Embach	12/05/1989
		5,103,404		McIntosh	04/07/1992
		5,107,262		Cadoz et al.	04/21/1992
		5,146,566		Hollis, Jr. et al.	09/08/1992
		5,184,319		Kramer	02/02/1993
		5,186,629		Rohen	02/16/1993
		5,203,563		Loper, III	04/20/1993
		5,296,871		Paley	03/22/1994
		5,354,162		Burdea et al.	10/11/1994
		5,388,992		Franklin et al.	02/14/1995
		5,399,091		Mitsumoto	03/21/1995
		5,405,152		Katanics et al.	04/11/1995
		5,440,183		Denne	08/08/1995
		5,565,840		Thorner et al.	10/15/1996
		5,583,478		Renzi	12/10/1996
		5,587,937		Massie et al.	12/24/1996
		5,589,828		Armstrong	12/31/1996
		5,619,180		Massimino et al.	04/08/1997
		5,631,861		Kramer	05/20/1997
		5,643,087		Marcus et al.	07/01/1997
		5,661,446		Anderson et al.	08/26/1997
		5,669,818		Thorner et al.	09/23/1997
		5,684,722		Thorner et al.	11/04/1997
		5,709,219		Chen et al.	01/20/1998
		5,714,978		Yamanaka et al.	02/03/1998
		5,734,373		Rosenberg et al.	03/31/1998
		5,736,978		Hasser et al.	04/07/1998
		5,739,811		Rosenberg et al.	04/14/1998
		5,742,278		Chen et al.	04/21/1998
		5,754,023		Roston et al.	05/19/1998
		5,781,172		Engel et al.	07/14/1998
		5,784,052		Keyson	07/21/1998
		5,790,108		Salcudean et al.	08/04/1998
		5,805,140		Rosenberg et al.	09/08/1998

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				<i>Complete if Known</i>	
				Application Number	
				Filing Date	February 13, 2004
				First Named Inventor	Erik SHAHOIAN
				Group Art Unit	
				Examiner Name	
Sheet	3	of	7	Attorney Docket Number	IMMR-033/02US

		5,857,986		Moriyasu	01/12/1999
		5,889,672		Schuler et al.	03/30/1999
		5,894,263		Shimakawa et al.	04/13/1999
		5,897,437		Nishiumi et al.	04/27/1999
		5,914,705		Johnson et al.	06/22/1999
		5,945,772		Macnak et al.	08/31/1999
		5,973,670		Barber et al.	10/26/1999
		5,984,880		Lander et al.	11/16/1999
		5,986,643		Harvill et al.	11/16/1999
		6,001,014		Ogata et al.	12/14/1999
		6,004,134		Marcus et al.	12/21/1999
		6,044,646		Silverbrook	04/04/2000
		6,078,126		Rollins et al.	06/20/2000
		6,088,017		Tremblay et al.	07/11/2000
		6,088,019		Rosenberg	07/11/2000
		6,184,868		Shahoian et al.	02/06/2001
		6,198,206		Saarmaa et al.	03/06/2001
		6,211,861		Rosenberg et al.	04/03/2001
		6,275,213		Tremblay et al.	08/14/2001
		6,317,032		Oishi	11/13/2001
		RE37,374		Roston et al.	09/18/2001
		3,832,895		Strandh	09/03/1974
		4,550,617		Fraignier et al.	11/05/1985
		4,604,016		Joyce	08/05/1986
		4,823,634		Culver	04/25/1989
		4,933,584		Harms et al.	06/12/1990
		4,983,901		Lehmer	01/08/1991
		5,107,080		Rosen	04/21/1992
		5,136,194		Oudet et al.	08/04/1992
		5,334,893		Oudet et al.	08/02/1994
		5,354,162		Burdea et al.	10/11/1994
		5,489,812		Furuhata et al.	02/06/1996
		5,580,251		Gilkes et al.	12/31/1996
		5,656,901		Kurita	08/12/1997
		5,691,747		Amano	11/25/1997
		5,696,537		Solhjell	12/09/1997
		5,721,566		Rosenberg et al.	02/24/1998
		5,755,577		Gillio	05/26/1998
		5,767,839		Rosenberg	06/16/1998
		5,821,920		Rosenberg et al.	10/13/1998
		5,903,085		Karam	05/11/1999
		5,956,016		Kuenzner et al.	09/21/1999
		5,979,892		Smith	11/09/1999
		6,002,184		Delson et al.	12/14/1999
		6,100,874		Schena et al.	08/08/2000
		6,104,158		Jacobus et al.	08/15/2000
		6,104,382		Martin et al.	08/15/2000
		6,154,201		Levin et al.	11/28/2000
		6,256,011		Culver	07/03/2001

Examiner Signature	Date Considered	
-----------------------	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Please type a plus sign (+) inside this box ➡ +

PTO/SB/08A (08-00)

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)			Complete if Known		
			Application Number		
			Filing Date	February 13, 2004	
			First Named Inventor	Erik SHAHOIAN	
			Group Art Unit		
			Examiner Name		
Sheet	4	of	7	Attorney Docket Number	IMMR-033/02US

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	T ⁴
		Office ¹	Number ²	Kind Code ³ (if known)			
		EP	0 349 086	A1	Stork Kwant B.V.	01/03/1990	
		JP	H4-8381		Taito Corporation	01/13/1992	
		JP	H2-185278		Taito Corporation	07/19/1990	
		JP	H7-24147		Sega Corporation	01/27/1995	
		JP	H5-192449		Taito Corporation	08/03/1993	
		EP	0 489 469	A1	N.V. Philips' Gloeilampenfabrieken	06/10/1992	
		DE	44 00 790	A1	Johannes Geisen	05/18/1995	
		PCT	WO 92/00559			01/09/1992	
		EP	0607580	A1		07/27/1994	
		EP	0265011			04/27/1988	
		EP	0626634	A2		05/11/1994	
		PCT	WO 01/03105			01/11/2001	
		PCT	WO 01/24158			04/05/2001	
		PCT	WO 97/31333			08/28/1997	
		PCT	WO 01/13354			02/22/2001	
		JP	4008381			01/13/1992	
		JP	S62-194389			12/10/1987	
		JP	702147			01/27/1995	
		JP	07096016			04/11/1991	
		DE	4400790	A1		05/18/1995	
		PCT	WO 98/32112			07/23/1998	
		PCT	WO 00/03319			01/20/2000	
		UK	2347199			08/30/2000	
		PCT	WO 99/40504			08/12/1999	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

² For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

³ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.

⁴ Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	
				Filing Date	February 13, 2004
				First Named Inventor	Erik SHAHOIAN
				Group Art Unit	
				Examiner Name	
Sheet	5	of	7	Attorney Docket Number	IMMR-033/02US

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Baigrie, "Electric Control Loading – A Low Cost, High Performance Alternative," <i>Proceedings of Interservice/Industry Training Systems Conference</i> , pp. 247-254, November 6-8, 1990	
		Iwata, "Pen-based Haptic Virtual Environment," 0-7803-1363-1/93 IEEE, pp. 287-292, 1993	
		Russo, "The Design and Implementation of a Three Degree of Freedom Force Output Joystick," <i>MIT Libraries Archives</i> pp. 1-131, May 1990, archived 8/14/90	
		Brooks et al., "Hand Controllers for Teleoperation - A State-of-the-Art Technology Survey and Evaluation," <i>JPL Publication 85-11</i> , NASA-CR-175890; N85-28559, pp. 1-84, 03/1/1985	
		Jones et al., "A perceptual analysis of stiffness," ISSN 0014-4819 Springer International (Springer-Verlag); <i>Experimental Brain Research</i> , Vol. 79, No. 1, pp. 150-156, 1990	
		Burdea et al., "Distributed Virtual Force Feedback, Lecture Notes for Workshop on Force Display in Virtual Environments and its Application to Robotic Teleoperation," <i>1993 IEEE International Conference on Robotics and Automation</i> , pp. 25-44, 05/02/1993	
		Snow et al., "Model-X Force-Reflecting-Hand-Controller," NT Control No. NPO-17851; JPL Case No. 7348, pp. 1-4 with 45 pages of attachments, 06/15/1989	
		Ouh-Young, "Force Display in Molecular Docking," Doctoral Dissertation, University of North Carolina at Chapel Hill, UMI Order No. 9034744, p. 1-369, 1990	
		Tadros, "Control System Design for a Three Degree of Freedom Virtual Environment Simulator Using Motor/Brake Pair Actuators," <i>MIT Archive</i> , pp. 1-88, February 1990, archived 8/13/90	
		Caldwell et al., "Enhanced Tactile Feedback (Tele-Taction) Using a Multi-Functional Sensory System," 1050-4729/93, pp. 955-960, 1993	
		Adelstein et al., "Design and Implementation of a Force Reflecting Manipulandum for Manual Control research," DSC-Vol. 42, <i>Advances in Robotics</i> , pp. 1-12, 1992	
		Gotow et al., "Controlled Impedance Test Apparatus for Studying Human Interpretation of Kinesthetic Feedback," WA11-11:00, pp. 332-337	
		Stanley et al., "Computer Simulation of Interacting Dynamic Mechanical Systems Using Distributed Memory Parallel Processors," DSC-Vol. 42, <i>Advances in Robotics</i> , pp. 55-61, ASME 1992	
		Russo, "Controlling Dissipative Magnetic Particle Brakes in Force Reflective Devices," DSC-Vol. 42, <i>Advances in Robotics</i> , pp. 63-70, ASME 1992	
		Kontarinis et al., "Display of High-Frequency Tactile Information to Teleoperators," <i>Telemanipulator Technology and Space Telerobotics</i> , Won S. Kim, Editor, Proc. SPIE Vol. 2057, pp. 40-50, Sep. 7-9, 1993	
		Patrick et al., "Design and Testing of A Non-reactive, Fingertip, Tactile Display for Interaction with Remote Environments," <i>Cooperative Intelligent Robotics in Space</i> , Rui J. deFigueiredo et al, Editor, Proc. SPIE Vol. 1387, pp. 215-222, 1990	
		Adelstein, "A Virtual Environment System For The Study of Human Arm Tremor," <i>Ph.D. Dissertation</i> , Dept. of Mechanical Engineering, MIT, June 1989, archived 3/13/90	
		Bejczy, "Sensors, Controls, and Man-Machine Interface for Advanced Teleoperation," <i>Science</i> , Vol. 208, No. 4450, pp. 1327-1335, 1980	
		Bejczy et al., "Generalization of Bilateral Force-Reflecting Control of Manipulators," <i>Proceedings Of Fourth CISM-IFTOMM</i> , Sep. 8-12, 1981	

Examiner Signature	Date Considered	
---------------------------	------------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Please type a plus sign (+) inside this box →



PTO/SB/08A (08-00)

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)			<i>Complete if Known</i>		
			Application Number		
			Filing Date		
			First Named Inventor		
			Group Art Unit		
			Examiner Name		
Sheet	6	of	7	Attorney Docket Number	IMMR-033/02US

	McAfee et al., "Teleoperator Subsystem/Telerobot Demonstrator: Force Reflecting Hand Controller Equipment Manual," JPL 1988, JPL D-5172	
	Minsky, "Computational Haptics: The Sandpaper System for Synthesizing Texture for a Force-Feedback Display," Ph.D. Dissertation, MIT, June 1995, archived 7/6/95	
	Jacobsen et al., "High Performance, Dexterous Telerobotic Manipulator With Force Reflection," Intervention/ROV '91 Conference & Exposition, Hollywood, Florida, May 21-23, 1991	
	Shimoga, "Finger Force and Touch Feedback Issues in Dexterous Telemanipulation," Proceedings of Fourth Annual Conference on Intelligent Robotic Systems for Space Exploration, Rensselaer Polytechnic Institute, Sep. 30- Oct. 1, 1992	
	IBM Technical Disclosure Bulletin, "Mouse Ball-Actuating Device With Force and Tactile Feedback," Vol. 32, No. 9B, February 1990	
	Terry et al., "Tactile Feedback In A Computer Mouse," Proceedings of Fourteenth Annual Northeast Bioengineering Conference, University of New Hampshire, March 10-11, 1988	
	Howe, "A Force-Reflecting Teleoperated Hand System for the Study of Tactile Sensing in Precision Manipulation," Proceedings of the 1992 IEEE International Conference on Robotics and Automation, Nice, France, May 1992	
	Eberhardt et al., "OMAR - A Haptic display for speech perception by deaf and deaf-blind individuals," IEEE Virtual Reality Annual International Symposium, Seattle, WA, Sep. 18-22, 1993	
	Rabinowitz et al., "Multidimensional tactile displays: Identification of vibratory intensity, frequency, and contractor area," Journal of The Acoustical Society of America, Vol. 82, No. 4, October 1987	
	Bejczy et al., "Kinesthetic Coupling Between Operator and Remote Manipulator," International Computer Technology Conference, The American Society of Mechanical Engineers, San Francisco, CA, August 12-15, 1980	
	Bejczy et al., "A Laboratory Breadboard System For Dual-Arm Teleoperation," SOAR '89 Workshop, JSC, Houston, TX, July 25-27, 1989	
	Ouhyoung et al., "A Low-Cost Force Feedback Joystick and Its Use in PC Video Games," IEEE Transactions on Consumer Electronics, Vol. 41, No. 3, August 1995	
	Marcus, "Touch Feedback in Surgery," Proceedings of Virtual Reality and Medicine The Cutting Edge, Sep. 8-11, 1994	
	Bejczy, et al., "Universal Computer Control System (UCCS) For Space Telerobots," CH2413-3/87/0000/0318501.00 1987 IEEE, 1987	
	SCANNELL, "Taking a Joystick Ride," Computer Currents, Boston Edition, Vol. 9, No. 11, November 1994.	
	"Component Maintenance Manual With Illustrated Parts List, Coaxial Control Shaker Part No. C-25502," Safe Flight Instrument Corporation, Revised 28 January 2002 (3 pages).	
	"Technical Manual Overhaul Instructions With Parts Breakdown, Coaxial Control Shaker Part No. C-25502," Safe Flight Instrument Corporation, Revised 15 July 1980 (23 pages).	
	Schmult, Brian et al., "Application Areas for a Force-Feedback Joystick," ASME 1993, DSC-Vol. 49, pp. 47-54.	
	Hasser, Christopher John, "Tactile Feedback for a Force-Reflecting Haptic Display," The School of Engineering, University of Dayton, December 1995, pp. iii-xii & 1-96.	
	Akamatsu, M. et al., "Multimodal Mouse: A Mouse-Type Device with Tactile and Force Display," Presence, Vol. 3, No. 1, 1994, pp. 73-80.	
	Kelley, A. J. et al., "MagicMouse: Tactile and Kinesthetic Feedback in the Human-Computer Interface using an Electromagnetically Actuated Input/Output Device," Dept. of Elec. Eng., Univ. of Brit. Columbia, 1993, pp. 1-27.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Please type a plus sign (+) inside this box →



PTO/SB/08A (08-00)

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				<i>Complete if Known</i>	
				Application Number	
				Filing Date	
				First Named Inventor	
				Group Art Unit	
				Examiner Name	
Sheet	7	of	7	Attorney Docket Number	IMMR-033/02US

	Hasser, C. et al., "Tactile Feedback with Adaptive Controller for a Force-Reflecting Haptic Display," Parts 1&2, IEEE 0-7803-3131-1, 1996, pp. 526-533.	
	Ramstein, C., "Combining Haptic and Braille Technologies: Design Issues and Pilot Study," ASSETS '96, 2 nd Annual ACM Conf. on Assistive Technologies, 1996, pp. 37-44.	
	Dennerlein, et al., "Vibrotactile Feedback for Industrial Telemanipulators," ASME IMECE, 6 th Annual Symp. On Haptic Interfaces for Virtual Environment and Teleoperator Systems, Nov. 1997, pp. 1-7.	
	Minsky, Margaret et al., "Feeling and Seeing: Issues in Force Display," ACM 089791-351-5, 1990, pp. 235-242.	
	Ouh-young, M. et al., "Creating an Illusion of Feel: Control Issues in Force Display," Computer Science Dept., Univ of N. Carolina, 1989, pp. 1-14.	
	Hasser, C., "Force-Reflecting Anthropomorphic Hand Masters," AL/CF-TR-1995-0110, 1995, pp. 5-31.	
	Kim, Won, "Telem manipulator Technology and Space Telerobotics," SPIE Proceedings, 1993, Vol. 2057, pp. 40-50.	
	Kaczmarek, K. et al., "Tactile Displays," Virtual Environments and Advanced Interface Design, edited Barfield et al., 1995, pp. 349-414.	
	Patrick, N. et al., "Design and Testing of a Non-reactive, fingertip, tactile display for interaction with remote environments," Cooperative Intelligent Robotics in Space, SPIE Proceedings, Vol. 1387, 1990, pp. 215-222.	
	Iwata, H., "Artificial Reality with Force-Feedback: Development of Desktop Virtual Space with Compact Master Manipulator," Computer Graphics, Vol. 24, No. 4, 1990, pp. 165-170.	
	Russo, M., "The Design and Implementation of a Three Degree-of-Freedom Force Output Joystick," Dept. of Mech. Eng., 1990, 1-40.	
	Slocum, A., Precision Machine Design, Prentice Hall, pp. 661, 664.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

195824 v1/RE
473K011.DOC

¹ Unique citation designation number.

² Applicant is to place a check mark here if English language Translation attached.